



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,229	11/12/2003	Andrew L. Van Brocklin	200309795-1	8482
22879	7590	06/27/2006		
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER DHARIA, PRABODH M	
			ART UNIT 2629	PAPER NUMBER

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Election/Restrictions

1. **Status:** Please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted on 11-12-2003 under application for patent, which have been placed of record in the file. Claims 1-44 are pending in this action.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 11-12-2003,05-04-2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosures statement is being considered by the examiner.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-13 are drawn to a large area display, comprising: a pixel layer including display elements; a connection layer; drivers in communication with the pixel layer and the connection layer, the drivers configured for driving the display elements in the pixel layer and configured for communicating through the connection layer; and a laminate formed of the pixel layer, the connection layer and drivers the display elements comprises at least one of liquid crystal display

(LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; classified in class 345, subclass 204.

- II. Claims 14-18 are drawn to a large area display, comprising: a plurality of sub-displays, each of the plurality of sub-displays comprising: a display element layer for emitting light; a driver in communication with the display element layer and configured for driving pixels in the display element layer; and a connection layer in communication with the driver and configured for serial data routing; and wherein the plurality of sub-displays form a large area display; classified in class 385 subclass 04.
- III. Claims 19-25 are drawn to a method of manufacturing a large area display, comprising: providing a pixel layer including a matrix of pixels; providing a connection layer; providing drivers; and laminating the pixel layer, the drivers and the connection layer together to form an operable large area display; a pixel layer comprises providing one of a liquid crystal display (LCD) pixel layer, a light emitting diode (LED) pixel layer, an organic LED (OLED) pixel layer, a polymer light emitting device (PLED) pixel layer, an electroluminescent (EL) pixel layer, an electrophoretic display layer, electrochromic display layer, electrowetting display layer, gas plasma display layer and a fiber plasma display layer; at least

one control device for each pixel comprises providing at least one metal insulator metal (MIM) device for each pixel; classified in class 349 subclass 42.

- IV Claims 26-37 are drawn to A large area display comprising: a means for emitting light including an array of sub-arrays each sub-array including an array of pixels; a means for driving each array of pixels of each sub-array of the array of sub-arrays; and a means for communicating display data, sensing and testing signals to and from a data source to the means for driving the array of pixels; the means for emitting light comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; the complementary transistors comprise p-channel and n-channel amorphous or polycrystalline or single crystal silicon; the complementary transistors comprise n-channel organic semiconductor paired with p-channel polycrystalline silicon; classified in class 348 subclass 46.
- V Claims 38-44 are drawn to an apparatus for manufacturing a large area display, comprising: a means for providing a pixel layer; a means for providing drivers; a means for providing a connection layer; and a means for laminating the pixel layer, drivers and connection layer together to form an operable large area display; a means for placing features on the pixel layer or the connection layer; a features comprises an embossing roller with patterning; low-temperature

polysilicon (LTPS) technology; and amorphous crystal growing (CG silicon) technology; the means for laminating the pixel layer, drivers and connection layer to form an operable large area display comprises roll-to-roll; classified in class 313 subclass 503.

4. The inventions are distinct from each other because:

Invention I relates to; a large area display, comprising: a pixel layer including display elements; a connection layer; drivers in communication with the pixel layer and the connection layer, the drivers configured for driving the display elements in the pixel layer and configured for communicating through the connection layer; and a laminate formed of the pixel layer, the connection layer and drivers the display elements comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; however, it does not relate to a large area display, comprising: a plurality of sub-displays, each of the plurality of sub-displays comprising: a display element layer for emitting light; a driver in communication with the display element layer and configured for driving pixels in the display element layer; and a connection layer in communication with the driver and configured for serial data routing; and wherein the plurality of sub-displays form a large area display; a large area display, comprising: providing a pixel layer including a matrix of pixels; providing a connection layer; providing drivers; and laminating the pixel layer, the drivers and the connection layer together to form an operable large area display; a pixel layer comprises providing one of a liquid crystal display (LCD) pixel layer,

Art Unit: 2629

a light emitting diode (LED) pixel layer, an organic LED (OLED) pixel layer, a polymer light emitting device (PLED) pixel layer, an electroluminescent (EL) pixel layer, an electrophoretic display layer, electrochromic display layer, electrowetting display layer, gas plasma display layer and a fiber plasma display layer; at least one control device for each pixel comprises providing at least one metal insulator metal (MIM) device for each pixel; A large area display comprising: a means for emitting light including an array of sub-arrays each sub-array including an array of pixels; a means for driving each array of pixels of each sub-array of the array of sub-arrays; and a means for communicating display data, sensing and testing signals to and from a data source to the means for driving the array of pixels; the means for emitting light comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; the complementary transistors comprise p-channel and n-channel amorphous or polycrystalline or single crystal silicon; the complementary transistors comprise n-channel organic semiconductor paired with p-channel polycrystalline silicon; and an apparatus for manufacturing a large area display, comprising: a means for providing a pixel layer; a means for providing drivers; a means for providing a connection layer; and a means for laminating the pixel layer, drivers and connection layer together to form an operable large area display; a means for placing features on the pixel layer or the connection layer; a features comprises an embossing roller with patterning; low-temperature polysilicon (LTPS) technology; and amorphous crystal growing (CG silicon) technology; the means for laminating the pixel layer, drivers and connection layer to form an operable large area display comprises roll-to-roll.

Invention II relates to a large area display, comprising: a plurality of sub-displays, each of the plurality of sub-displays comprising: a display element layer for emitting light; a driver in communication with the display element layer and configured for driving pixels in the display element layer; and a connection layer in communication with the driver and configured for serial data routing; and wherein the plurality of sub-displays form a large area display; however, it does not relate to a large area display, comprising: a pixel layer including display elements; a connection layer; drivers in communication with the pixel layer and the connection layer, the drivers configured for driving the display elements in the pixel layer and configured for communicating through the connection layer; and a laminate formed of the pixel layer, the connection layer and drivers the display elements comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; a large area display, comprising: providing a pixel layer including a matrix of pixels; providing a connection layer; providing drivers; and laminating the pixel layer, the drivers and the connection layer together to form an operable large area display; a pixel layer comprises providing one of a liquid crystal display (LCD) pixel layer, a light emitting diode (LED) pixel layer, an organic LED (OLED) pixel layer, a polymer light emitting device (PLED) pixel layer, an electroluminescent (EL) pixel layer, an electrophoretic display layer, electrochromic display layer, electrowetting display layer, gas plasma display layer and a fiber plasma display layer; at least one control device for each pixel comprises providing at least one metal insulator metal (MIM) device for each pixel; a large area display comprising: a means for emitting light including an array of sub-arrays each sub-array including an array of

Art Unit: 2629

pixels; a means for driving each array of pixels of each sub-array of the array of sub-arrays; and a means for communicating display data, sensing and testing signals to and from a data source to the means for driving the array of pixels; the means for emitting light comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; the complementary transistors comprise p-channel and n-channel amorphous or polycrystalline or single crystal silicon; the complementary transistors comprise n-channel organic semiconductor paired with p-channel polycrystalline silicon; and a large area display, comprising: a means for providing a pixel layer; a means for providing drivers; a means for providing a connection layer; and a means for laminating the pixel layer, drivers and connection layer together to form an operable large area display; a means for placing features on the pixel layer or the connection layer; a features comprises an embossing roller with patterning; low-temperature polysilicon (LTPS) technology; and amorphous crystal growing (CG silicon) technology; the means for laminating the pixel layer, drivers and connection layer to form an operable large area display comprises roll-to-roll.

Invention III relates to a large area display, comprising: providing a pixel layer including a matrix of pixels; providing a connection layer; providing drivers; and laminating the pixel layer, the drivers and the connection layer together to form an operable large area display; a pixel layer comprises providing one of a liquid crystal display (LCD) pixel layer, a light emitting diode (LED) pixel layer, an organic LED (OLED) pixel layer, a polymer light emitting device (PLED) pixel layer, an electroluminescent (EL) pixel layer, an electrophoretic display layer,

Art Unit: 2629

electrochromic display layer, electrowetting display layer, gas plasma display layer and a fiber plasma display layer; at least one control device for each pixel comprises providing at least one metal insulator metal (MIM) device for each pixel; however, it does not relate to large area display, comprising: a pixel layer including display elements; a connection layer; drivers in communication with the pixel layer and the connection layer, the drivers configured for driving the display elements in the pixel layer and configured for communicating through the connection layer; and a laminate formed of the pixel layer, the connection layer and drivers the display elements comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; a large area display, comprising: a plurality of sub-displays, each of the plurality of sub-displays comprising: a display element layer for emitting light; a driver in communication with the display element layer and configured for driving pixels in the display element layer; and a connection layer in communication with the driver and configured for serial data routing; and wherein the plurality of sub-displays form a large area display; a large area display comprising: a means for emitting light including an array of sub-arrays each sub-array including an array of pixels; a means for driving each array of pixels of each sub-array of the array of sub-arrays; and a means for communicating display data, sensing and testing signals to and from a data source to the means for driving the array of pixels; the means for emitting light comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; the complementary transistors comprise p-

Art Unit: 2629

channel and n-channel amorphous or polycrystalline or single crystal silicon; the complementary transistors comprise n-channel organic semiconductor paired with p-channel polycrystalline silicon; and a large area display, comprising: a means for providing a pixel layer; a means for providing drivers; a means for providing a connection layer; and a means for laminating the pixel layer, drivers and connection layer together to form an operable large area display; a means for placing features on the pixel layer or the connection layer; a features comprises an embossing roller with patterning; low-temperature polysilicon (LTPS) technology; and amorphous crystal growing (CG silicon) technology; the means for laminating the pixel layer, drivers and connection layer to form an operable large area display comprises roll-to-roll.

Invention IV relates to a large area display comprising: a means for emitting light including an array of sub-arrays each sub-array including an array of pixels; a means for driving each array of pixels of each sub-array of the array of sub-arrays; and a means for communicating display data, sensing and testing signals to and from a data source to the means for driving the array of pixels; the means for emitting light comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; the complementary transistors comprise p-channel and n-channel amorphous or polycrystalline or single crystal silicon; the complementary transistors comprise n-channel organic semiconductor paired with p-channel polycrystalline silicon; however, it does not relate to a large area display, comprising: a pixel layer including display elements; a connection layer; drivers in communication with the pixel layer and the

Art Unit: 2629

connection layer, the drivers configured for driving the display elements in the pixel layer and configured for communicating through the connection layer; and a laminate formed of the pixel layer, the connection layer and drivers the display elements comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; a large area display, comprising: a plurality of sub-displays, each of the plurality of sub-displays comprising: a display element layer for emitting light; a driver in communication with the display element layer and configured for driving pixels in the display element layer; and a connection layer in communication with the driver and configured for serial data routing; and wherein the plurality of sub-displays form a large area display; a large area display, comprising: providing a pixel layer including a matrix of pixels; providing a connection layer; providing drivers; and laminating the pixel layer, the drivers and the connection layer together to form an operable large area display; a pixel layer comprises providing one of a liquid crystal display (LCD) pixel layer, a light emitting diode (LED) pixel layer, an organic LED (OLED) pixel layer, a polymer light emitting device (PLED) pixel layer, an electroluminescent (EL) pixel layer, an electrophoretic display layer, electrochromic display layer, electrowetting display layer, gas plasma display layer and a fiber plasma display layer; at least one control device for each pixel comprises providing at least one metal insulator metal (MIM) device for each pixel; and a large area display, comprising: a means for providing a pixel layer; a means for providing drivers; a means for providing a connection layer; and a means for laminating the pixel layer, drivers and connection layer together to form an operable large area display; a means for placing features on the pixel layer or the connection layer; a features

Art Unit: 2629

comprises an embossing roller with patterning; low-temperature polysilicon (LTPS) technology; and amorphous crystal growing (CG silicon) technology; the means for laminating the pixel layer, drivers and connection layer to form an operable large area display comprises roll-to-roll.

Invention V relates to a large area display, comprising: a means for providing a pixel layer; a means for providing drivers; a means for providing a connection layer; and a means for laminating the pixel layer, drivers and connection layer together to form an operable large area display; a means for placing features on the pixel layer or the connection layer; a features comprises an embossing roller with patterning; low-temperature polysilicon (LTPS) technology; and amorphous crystal growing (CG silicon) technology; the means for laminating the pixel layer, drivers and connection layer to form an operable large area display comprises roll-to-roll; and however, it does not relate to a large area display, comprising: a pixel layer including display elements; a connection layer; drivers in communication with the pixel layer and the connection layer, the drivers configured for driving the display elements in the pixel layer and configured for communicating through the connection layer; and a laminate formed of the pixel layer, the connection layer and drivers the display elements comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; a large area display, comprising: a plurality of sub-displays, each of the plurality of sub-displays comprising: a display element layer for emitting light; a driver in communication with the display element layer and configured for driving pixels in the display element layer; and a connection layer in communication with the driver and

Art Unit: 2629

configured for serial data routing; and wherein the plurality of sub-displays form a large area display; a large area display, comprising: providing a pixel layer including a matrix of pixels; providing a connection layer; providing drivers; and laminating the pixel layer, the drivers and the connection layer together to form an operable large area display; a pixel layer comprises providing one of a liquid crystal display (LCD) pixel layer, a light emitting diode (LED) pixel layer, an organic LED (OLED) pixel layer, a polymer light emitting device (PLED) pixel layer, an electroluminescent (EL) pixel layer, an electrophoretic display layer, electrochromic display layer, electrowetting display layer, gas plasma display layer and a fiber plasma display layer; at least one control device for each pixel comprises providing at least one metal insulator metal (MIM) device for each pixel; and a large area display comprising: a means for emitting light including an array of sub-arrays each sub-array including an array of pixels; a means for driving each array of pixels of each sub-array of the array of sub-arrays; and a means for communicating display data, sensing and testing signals to and from a data source to the means for driving the array of pixels; the means for emitting light comprises at least one of liquid crystal display (LCD), light emitting diode (LED), organic LED (OLED), polymer light emitting device (PLED), electroluminescent (EL), electrophoretic display, electrochromic display, electrowetting, gas plasma and fiber plasma; the complementary transistors comprise p-channel and n-channel amorphous or polycrystalline or single crystal silicon; the complementary transistors comprise n-channel organic semiconductor paired with p-channel polycrystalline silicon.

Art Unit: 2629

5. These above-mentioned reasons the inventions described and categorized by class /subclass above are distinct. Search required for each class and subclass is independent.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

9. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2629

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks

Washington, D.C. 20231

PD

AU2629

June 04,2006



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600